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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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	Complete if Known
Application Number	09/760,380
Filing Date	January 16, 2001
First Named Inventor	Bernard BELLEAU et al.
Group Art Unit	Not Yet Assigned 1624
Examiner Name	Not-Yet-Assigned McKeyu
Attorney Docket Number	IAF-1/2 C11

U.S. PATENT DOCUMENTS							
Examiner Cite No.1		U.S. Patent Document Kind Code ² Number (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Releval	
						Passages or Relevant Figures Appear	
7014		5,914,400	544	Liotta et al.	06-22-99		
		5,763,606	544	Mansour et al.	06-09-98		
		5,466,806	544	Belleau et al.	11-14-96		
		5,210,085	514	Liotta et al.	05-11-93		
		5,204,466	544	Liotta et al.	04-20-93		
- 1		4,415,573	514	Ochi et al.	11-15-83		
		3,328,388	260	Shen et al.	06-27-67		
		5.684,164	549	Belleau et al.	11-04-97		
W		5,041,449	514	Belleau et al.	08-20-91		

				FOREIG	N PATENT DOCU	MENTS		
Examiner Cite Initials* No.1			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Te		
Klu		EP	0 071 926			07-31-82		
7		EP	0 337 713	i .	_	10-18-89		
		EP	0 382 526			02-08-90		
		EP	0 515 156	i		05-20-92		
\neg		EP	0 515 157			05-20-92		
		WO	90/01492			02-22-90		
		WO	91/11186			08-08-91		
		wo	91/17159			11-14-91		
T		wo	92/10496			06-25-92		
7		wo	92/10497			06-25-92		
		wo	92/14729			09-03-92		
		WO	92/14743			09-03-92		
		wo	92/18517			10-29-92		
		WO	92/19246			11-12-92		
		WO	92/20669			11-26-92		
		WO	92/20696			11-26-92		
W		wo	94/14802		0.0	07-07-94	. ,	

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Substitute for form 1449A/PTO Complete if Known Application Number 09/760,380 INFORMATION DISCLOSURE January 16, 2001 Filing Date STATEMENT BY APPLICANT First Named Inventor Bernard BELLEAU et al. Group Art Unit Not Yet Assigned (use as many sheets as necessary) **Examiner Name** Not Yet Assigned Sheet Attorney Docket Number IAF-1/2 C11

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
70		J.W. Beach et al., "Synthesis of Enantiomerically Pure (2'R,5'S)-(-)-1-[2-(Hydroxymethyl)oxathiolan-5-yl]cytosine as a Potent Antiviral Agent Against Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV)", J.Org.Chem., Vol. 57, pp. 2217-2219 (1992)	
		B.R. Belleau, et al., "Oxidative Degradation of L-Ascorbic Acid Acetals to 2',3'-Dideoxy-3'-Oxaribofuranosides. Synthesis of Enantiomerically Pure 2',3'-Dideoxy-3'-Oxacytidine Stereoisomers as Potential Antiviral Agents", Tetrahedron Lett., Vol. 33, pp. 6949-6952 (1992)	<u>_</u>
		A.D. Borthwick et al., "Synthesis and Enzymatic Resolution of Carbocyclic 2'-Ara-fluoro-Guanosine: A Potent New Anti-Herpetic Agent", J.Chem. Soc. Chem.Commun., pp. 656-658 (1988)	
		C.K. Chu et al., "Asymmetric Synthesis of Enantiomerically Pure (-0-(1'R,4'R)-Dioxolane-thymine and Its Anti-HIV Activity", Tetrahedron Lett., Vol. 31, p. 3791-3794 (1991)	
		V. Farina et al., "A New Synthesis of 2',3'-Dideoxynucleosides for AIDS Chemotherapy", Tetrahedron Lett., Vol. 29, pp. 1239-1242 (1988)	
		B. Ganem, "Synthesis of Iso-ddA, Member of a Novel Class of Anti-HIV Agents; Dioxolane-T, A New 2',3'- Dideoxy-nucleoside Prototype with In Vitro Activity Against HIV", Chemtracts-Organic Chemistry, Vol. 3, pp. 249- 251 (1990)	
		G. Hesse et al., "Mercapto-acetaldehyd und Dioxy-1,4-dithian", Chem.Ber., Vol 85, pp. 924-932 (1952)	1
		D.C. Humber et al., "Expeditious Preparation of (-)-2'-Deoxy-3'-Thiacytidine (3TC)", Tetrahedron Lett., Vol. 33, pp. 4625-4628 (1992)	
		L.S. Jeong et al., "Asymmetric Synthesis and Biological Evaluation of β-L-(2R, 5S)- and α-L-(2R,5R)-1,3- Oxathiolane-Pyrimidine and -Purine Nucleosides as Potential Anti-Hiv Agents", J.Med.Chem., Vol. 36, pp. 181- 195 (1993)	
		J.L. Kraus et al., "Synthesis of New 2,5-Disubstituted 1,3-Oxathilanes. Intermediates in Nucleoside Chemistry", Synthesis, pp. 1046-1048 (1991)	0
		H.O. Kim et al., "Asymmetric Synthesis of 1,3-Dioxolane-Pyrimidine Nucleosides and Their Anti-HIV Activity", J.Med.Chem., Vol. 35, pp. 1987-1995 (1992)	
		J.M. McIntosh et al., *2-Mercaptoaldehyde Dimers and 2,5-Dihydrothiophenes From 1,3-Oxathiolan-5-ones*, Can.J.Chem, Vol. 61, pp. 1872-1875 (1983)	
Q.		D.W. Norbeck et al., "(±-Dioxolane-T ((±)-1-[(2β,4β)-2-(hydroxymethyl)-4-dioxolanyl]thymine) A New 2',3'-Dideoxy-nucleoside Prototype With In Vitro Activity Against HIV", <u>Tetrahedron Lett.</u> , Vol. 30, pp. 6263-6266 (1989)	

Examiner Signature	Druge HUL	10	Date Considered		

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Sheet of 3

Examiner Initials *	Cite No.1						
gen		M. Okabe et al., "Synthesis of the Dideoxynucleosides ddC and CNT from Glutamic Acid, Ribonolactone, and Pyrimidine Bases", J.Org.Chem., Vol. 53, pp. 4780-4786 (1988)					
		R. Storer, et al., "The Resolution And Absolute Stereochemistry of the Enantiomers of cis-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl] Cytosine (BCH-189): Equipotent Anti-HIV Agents", Nucleosides & Nucleotides, Vol. 12, pp. 225-236 (1993)					
		E. Vedejs, et al., "Method for Sulfide S-Benzylation or S-Allylation Using Trimethylsily Triflate Activated Benzyl or Allyl Ethers", J.Org.Chem., Vol. 46, pp. 3353-3354 (1981)					
		W-B. Choi et al., "In Situ Complexation Directs the Stereochemistry of N-Glycosylvation in the Synthesis of Oxathiolanyl and Dioxolanyl Nucleoside Analogues", J. Am. Chem. Soc., Vol. 113, pp. 9377-9379 (1991)					
		W-B Choi et al., "Synthesis, Anti-Human Immunodeficiency Virus, and Anti-Hepatitis B Virus Activity of Pyrimidine Oxathiolane Nucleosides", Bioorg. & Med. Chem. Lett., Vol. 3(4), pp. 693-696 (1993)					
		C.K. Chu et al., "Enantiomeric Synthesis of (+)-BCH-189 [(+)-(2S,5R)-1-[2-(Hydroxymethyl)-1,3-oxathiolan-5-yl]cytosine] from D-Mannose and Its Anti-HIV Activity", J.Org.Chem., Vol. 56, pp. 6503-6505 (1991)					
		C.A. Evans et al., "Divergent Asymmetric Syntheses of Dioxolane Nucleoside Analogues", Tetrahedron (Asymmetry, vol. 4(11), pp. 2319-2322 (1993)					
		P. Faury et al., "Synthesis of Tetrazola Oxathiolane Nucleoside Analogues and Their Evaluation as HIV-1 Antiviral Agents", Nucleosides & Nucleotides, Vol. 11(8), pp. 1481-1488 (1992)					
		L.S. Jeong et al., "An Efficient Synthesis of Enantiomerically Pure (+)-(2S,5R)-1-[2-(Hydroxymethyl)-1,3-Oxathiolan-5-yl)cytosine [(+)-BCH-189] from D-Galactose", Tetrahedron Lett., Vol. 33, pp. 595-598 (1992)					
		L.S. Jeong et al., "Structure-Activity Relationship of β-D-(2S,5R)- and α-D-(2S,5S)-1,3-Oxathiolanyl Nucleosides as Potential Anti-HIV Agents," J.Med.Chem., Vol. 36, pp. 2627-2638 (1993)					
i		H. Jin et al., "Unexpected Effects of Lewis Acids in the Synthesis of Optically Pure 2'-Deoxy-3'-Oxayctidine Nucleoside Analogues", Tetrahedron Asymmetry, Vol. 4(2), pp. 211-214 (1993)					
		H.O. Kim et al., "Potent Anti-HIV and Anti-HBV Activities of (-)-L-β-Dioxolane-C and (+)-L-β-Dioxolane-T and Their Asymmetric Syntheses", Tetrahedron Lett., Vol. 33, pp. 6899-6902 (1992)					
		H.O. Kim et al., "1,3-Dioxolanylpurine Nucleosides (2R,4R) and (2R,4S) with Selective Anti-HIV-1 Activity in Human Lymphocytes", J.Med.Chem., Vol. 36, pp. 30-37 (1993)					
		M.A. Siddiqui et al., "Antiviral Optically Pure Dioxolane Purine Nucleosides Analogues", Bioorg. & Med. Chem. Lett., Vol. 3(8), pp. 1543-1546 (1993)					
il		L.J. Wilson et al., "The Synthesis and Anti-HIV Activity of Pyrimidine Dioxolanyl Nucleosides", Bioorg. & Med. Chem. Lett., Vol. 3(2), pp. 169-174 (1993)					
		R.J. Fessenden et al., Organic Chemistry, (Willard Grant Press, Boston), p. 633 (1983)					
		Milton et al., "Enantioselective Enzymatic Synthesis of the Anti-viral Agent Lamivudine (3TC™);" Tetrahedron Letts., Vol. 36, pp. 6961-6964 (1995)					
		Jin et al., "Diastereoselective Synthesis of the Potent Antiviral Agent (-)-2'-Deoxy-3'-thiacytidine and Its Enantiomer," J.Org.Chem., 60, pp. 2621-2623 (1995)					
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